

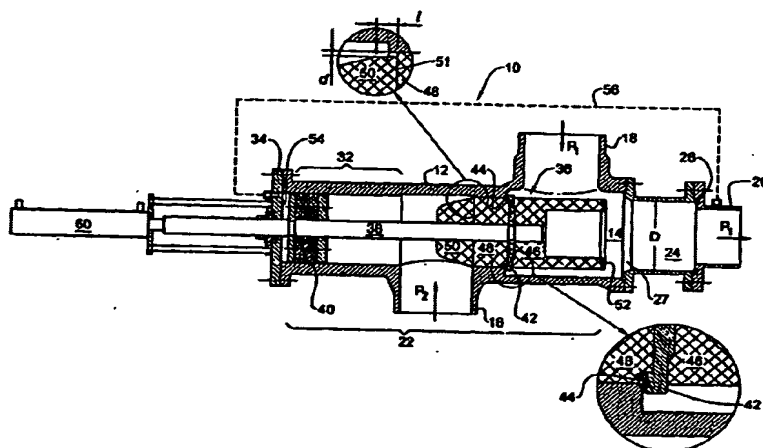
(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau(43) International Publication Date
23 December 2004 (23.12.2004)

PCT

(10) International Publication Number
WO 2004/111509 A1

- (51) International Patent Classification⁷: **F16K 11/044**
- (21) International Application Number:
PCT/IL2004/000471
- (22) International Filing Date: 3 June 2004 (03.06.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/477,751 12 June 2003 (12.06.2003) US
- (71) Applicant (for all designated States except US): **I.D.E. TECHNOLOGIES LTD.** [IL/IL]; Hamatechet Street, P.O.Box 5016, Hasharon Industrial Park, 60920 Kadima (IL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ROJANSKIY, Henrikh** [IL/IL]; 526/15 King David Street, 30600 Or Akiva (IL). **OPHIR, Avraham** [IL/IL]; 4 Neve Oved Street, 46602 Herzliya (IL).
- (74) Agent: **REINHOLD COHN AND PARTNERS**; P.O. Box 4060, 61040 Tel Aviv (IL).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **THREE-WAY POPPET VALVE FOR WORK EXCHANGER**

(57) Abstract: A three-way two-position poppet valve (10) comprising a housing (12) with a generally cylindrical valve chamber (14), a first (20) and a second (16) port with coaxial valve seats (26, 28) at the ends of the chamber, and a third lateral working port (22). A poppet body (36) is disposed reciprocally in the valve chamber so that in a first position of the poppet body the first valve seat (26) is sealed and the second port communicates with the working port, and in a second position the second valve seat (28) is sealed and the first port communicates with the working port. The valve is characterized in that the housing has two coaxial cylindrical passages (24, 30) adjacent the respective valve seats, while the poppet body has two coaxial cylinder parts (44, 48) slidingly and sealingly fitting the cylindrical passages, so that the poppet body is always supported in at least one of the cylindrical passages and fluid communication between the first and the second port is always prevented.